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BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER	
HON, SOW FUN	

ART UNIT	PAPER NUMBER
1783	

NOTIFICATION DATE	DELIVERY MODE
06/23/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/593,590	SHUNSUKE ET AL.	
	Examiner	Art Unit	
	SOPHIE HON	1783	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *2/22/10*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) *25-26* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 6-24* is/are rejected.

7)☐ Claim(s) *5* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-24 in the reply filed on 02/22/10 is acknowledged. The traversal is on the ground(s) that the present claim contains the limitation of "resin having a negative intrinsic birefringence" which is not disclosed by US 2003/0125503 which teaches a layer comprising a resin, the layer itself having a negative birefringence, [such that a lack of unity has not been demonstrated]. Applicant argues that since '03 teaches that the birefringence is controlled by adjusting the materials, the film thickness and the production conditions.

This is not found persuasive. The correct parameter that is being addressed in the citation is actually the retardation which is a mathematical product of the birefringence and the thickness of the film ([0026]) and thus by definition depends on the thickness of the film as well the materials and the production conditions. While '03 fails to disclose that the polyaryletherketone resin represented by formula (1) of '03 has negative birefringence, since the film is formed from the resin ([0029]), the film has the optical properties of the resin composition and hence the inherent negative birefringence of the resin. Furthermore, while '03 fails to describe the negative birefringence of the film and hence the negative birefringence of the resin as being intrinsic, since the negative birefringence is inherent in the resin, it is an intrinsic property. US 2002/0060762 is evidence that the terms "negative birefringence" and "negative intrinsic birefringence" are used interchangeably ([0036]).

As such, the requirement is still deemed proper and is therefore made FINAL.

New Rejections

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 24 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In the instant case, the breadth of the scope of the inequality "Tg(B)+30>Tg(A)" in line 3 does not appear to be supported by the specification. Clarification with reference to citations in the specification, or correction, is requested.

3. Claims 16, 22-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claim 16 recites "Tg(A)" and "Tg(B)" which are not defined. Tg(D) is defined as the glass transition temperature or a softening point in ºC of an adhesive in the adhesive

layer. It is unclear whether Tg(A) and Tg(B) represent the corresponding glass transition temperature or a softening point in ºC of a/the resin having a negative intrinsic birefringence and a/the transparent resin, or the combined resins of the respective layers A and B. Clarification and correction are required.

b. Claims 22-23 recite the limitation "unstretched laminate" in line 1. There is insufficient antecedent basis for this limitation in the claims since parent claim 1 fails to recite it. Furthermore, Tg(A) and Tg(B) need to be defined. Correction is required.

Claim Rejections - 35 USC § 102

4. Claims 1, 4, 10-11, 15, 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakamoto (US 2003/0125503), as evidenced by Arakawa (US 2002/0060762).

Regarding claims 1, 4, Sakamoto teaches an optical laminate C (optical film, [0045]) which comprises layer A having a negative birefringence ([0008]) formed from a resin (polymer, [0029]) which, since the layer has the optical properties of the resin, means that the resin has an inherent negative intrinsic birefringence, as evidenced by Arakawa.

Arakawa teaches that the terms “negative birefringence” and “negative intrinsic birefringence" are used interchangeably ([0036]).

In addition, Sakamoto teaches that the optical laminate C further comprises at least one layer B comprising a transparent resin having substantially no orientation, being optically isotropic (norbornene-based resin, second substrate is optically isotropic,

[0046]) laminated at least on one face of layer A (optical film can be transferred to another substrate (hereafter, referred to as "a second substrate"), [0045]), wherein layer B is isotropic (second substrate is optically isotropic, [0046]) which satisfies Applicant's relation of |Re(A)| >|Re(B)|, wherein Re(A) and Re(B) represent an in-plane retardation of layer A and an in-plane retardation of layer B, respectively, and are mathematical products of the respective layer birefringence and thickness, measured with light having a wavelength of 590 nm (refractive index, [0083] where the birefringence is the difference between two refractive indices in a plane) which is within the claimed range of 400 to 700 nm.

Although Sakamoto fails to teach that the optical laminate satisfies the claimed relation, where the claimed and prior art products are identical or substantially identical in structure and composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, and the claimed properties are presumed to be inherent. See MPEP 2112.01. If there were to be any differences in structure or chemistry, these differences are presumed to be minor and obvious in the absence evidence to the contrary. In the instant case, Sakamoto teaches the presently claimed optical laminate.

Regarding claims 10-11, Sakamoto teaches that the transparent resin is a norbornene polymer which has an alicyclic structure (norbornene-based resin, second substrate is optically isotropic, [0046]).

Regarding claim 15, Sakamoto teaches an adhesive layer ([0045]) disposed between the layer comprising a resin having a negative intrinsic birefringence (layer A)

and the layer comprising a transparent resin and having substantially no orientation (layer B) (adhering the optical film ... with the second substrate, when the substrate is transparent, [0045]).

Regarding claim 17, Sakamoto teaches an optical element comprising a laminate of the optical laminate and a polarizer plate ([0048]).

Regarding claims 18-19, Sakamoto teaches a liquid crystal display device which uses at least one sheet of the optical laminate, and that the liquid crystal display device can comprise a liquid crystal cell of in-plane switching (IPS) mode ([0047]).

5. Claims 1-2, 4, 7-9, 14-15, 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Ichikawa (US 4,985,285), as evidenced by Arakawa (US 2002/0060762).

Regarding claims 1, 4, 7, Ichikawa teaches an optical laminate C (column 2, line 68) which comprises a layer A and at least one layer B comprising a transparent resin (visible light transmittance of 92%, column 7, lines 35-40), having substantially no orientation, being optically isotropic, and laminated at least on one face of layer A (film A and an optically isotropic amorphous film B disposed on at least one side of A, column 3, lines 1-2). Ichikawa teaches that layer A comprises polymethyl methacrylate (column 8, lines 14-20) which is a resin that has a negative intrinsic birefringence, as evidenced by Arakawa.

Arakawa teaches that polymethyl methacrylate has a negative intrinsic birefringence ([0036]).

In addition, Ichikawa teaches that layer B has a retardation value of 2 nm (similar to the one used in Example 1, column 8, lines 2-30, retardation, column 7, lines 35-40)

which means that the measured in-plane retardation |Re(B)| has at most a value of 2 nm, and layer A has a retardation value of 138 nm (column 8, lines 20-26) which means that the measured in-plane retardation |Re(A)| has at most a value of 138 nm, wherein Re(A) and Re(B) represent an in-plane retardation of layer A and an in-plane retardation of layer B, respectively, and are mathematical products of the respective layer birefringence and thickness, normally measured with visible light which has a wavelength of 400 to 700 nm. As such, layer A and layer B in the optical laminate C of Ichikawa are expected to satisfy Applicant's relation of |Re(A)| >|Re(B)|.

Although Ichikawa fails to teach that the optical laminate satisfies the claimed relation, where the claimed and prior art products are identical or substantially identical in structure and composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, and the claimed properties are presumed to be inherent. See MPEP 2112.01. If there were to be any differences in structure or chemistry, these differences are presumed to be minor and obvious in the absence evidence to the contrary. In the instant case, Ichikawa teaches the presently claimed optical laminate.

Regarding claim 2, Ichikawa teaches that the retardation value of layer B is 2 nm (column 7, lines 35-40) which means that the measured in-plane retardation |Re(B)| has at most a value of 2 nm, which is within the claimed range of 20 nm or smaller.

Regarding claims 8-9, Ichikawa teaches that layer A can further comprise a polystyrene (column 3, lines 3-10) which is a species of a vinyl aromatic polymer having a negative intrinsic birefringence, as evidenced by Arakawa.

Arakawa teaches that polystyrene has a negative intrinsic birefringence ([0036]).

Regarding claims 14-15, Ichikawa teaches an adhesive layer disposed between layer A and layer B to laminate layer B on both faces of layer A (column 7, lines 20-30, laminated onto either side of film A, column 8, lines 28-33).

Regarding claim 17, Ichikawa teaches an optical element comprising a laminate of the optical laminate C (laminate film consisting of said oriented synthetic film A and an optically isotropic amorphous film B, column 2, lines 29-45, Fig. 1) and a polarizer plate (polarizing sheet 2, column 2, lines 29-45, Fig. 1).

Regarding claim 18, Ichikawa teaches a liquid crystal display device which uses at least one sheet of the optical laminate (column 2, lines 26-40).

Claim Rejections - 35 USC § 103

6. Claims 3, 6, 13, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa, as evidenced by Arakawa, as applied to claims 1-2, 4, 7-9, 14-15, 17-18 above, and further in view of Murooka (JPO Website Machine English Translation of JP 2000-141567).

Ichikawa, as evidenced by Arakawa, teaches the optical laminate C comprising layer A and layer B as described above.

Regarding claim 3, Ichikawa fails to teach that the optical laminate C satisfies the claimed relation.

However, Murooka teaches an optical laminate C that satisfies the relation Tg(A) > Tg(B) + 40, which satisfies Applicant's relation (difference of a glass transition of an A

horizon of multilayer... and a B horizon is not less than 40, [0031], when B horizon heats, it cannot raise to an extension temperature required to extend a horizon A, [0032]), for the purpose of providing the A layer with orientation and the B layer with no orientation upon stretching the optical laminate C (stopped, [0031]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have provided an optical laminate C which satisfies the relation of Applicant, as the optical laminate C of Ichikawa, in order to provide an optical laminate where the A layer has orientation and the B layer has no orientation, as taught by Murooka.

Regarding claim 6, Ichikawa fails to disclose that an unevenness in a thickness of layer A is 3.0% or smaller of an average thickness of layer A.

However, Ichikawa teaches that layer A has a phase retardation function (column 3, lines 1-5) which requires uniform thickness for the purpose of providing the desired uniform phase retardation.

Murooka teaches that the unevenness in thickness of layer A is desirably within a range of 0.15% or less (0.15 or less in relative standard deviation, [0035]) which is within the claimed range of 3.0% or smaller of an average thickness of layer A, for the purpose of providing the desired uniformity (reduction in thickness spots, [0034]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have provided layer A of Ichikawa with an unevenness in a thickness of layer A that is 3.0% or smaller of an average thickness of the layer, in

order to obtain the desired uniformity, as taught by Murooka, which provides the desired uniformity in optical retardation.

Regarding claim 13, Ichikawa fails to disclose that the transparent resin in layer B of the optical laminate C has a tensile elongation at break of 30% or greater.

However, when layer B comprising the transparent resin is used as the structural support for layer A during stretching of layer A, a tensile elongation at break of 30% or greater is desirable for the purpose of allowing a greater stretch ratio.

Murooka teaches that a common method where the optical laminate comprising layer A and layer B, is stretched (extended, [0037]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have stretched the optical laminate C comprising layer A and layer B of Ichikawa, in order to obtain the desired optical characteristics, as taught by Murooka, wherein the transparent resin in layer B has a tensile elongation at break that is within a range of 30% or greater, in order to obtain the desired stretch ratio.

Regarding claim 21, Ichikawa, as evidenced by Arakawa, teaches the optical laminate C where layer B comprising transparent resin and having substantially no orientation is laminated on at least on face of layer A comprising resin having a negative intrinsic birefringence, as described above. Ichikawa fails to teach that the optical laminate C is obtained by co-stretching an unstretched laminate comprising an unstretched resin layer comprising the transparent resin and having substantially no orientation and an unstretched resin layer comprising the resin having a negative

intrinsic birefringence, said unstretched resin layer comprising the transparent resin and having substantially no orientation being laminated on at least one face of the layer comprising the resin having a negative intrinsic birefringence.

However, Murooka teaches that an optical laminate can be obtained by co-stretching an unstretched laminate such that the unstretched resin layer comprising the transparent resin and having substantially no orientation can retain the state of having substantially no orientation even when stretched (orientation by extension will be stopped, [0031]) for the purpose of streamlining the manufacturing process.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have obtained the optical laminate C of Ichikawa by co-stretching an unstretched laminate comprising an unstretched resin layer comprising the transparent resin and having substantially no orientation and an unstretched resin layer comprising the resin having a negative intrinsic birefringence, said unstretched resin layer comprising the transparent resin and having substantially no orientation being laminated on at least one face of the layer comprising the resin having a negative intrinsic birefringence, in order to streamline the manufacturing process, as taught by Murooka.

7. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa, as evidenced by Arakawa, as applied to claims 1-2, 4, 7-9, 14-15, 17-18 above, and further in view of Sakamoto (US 2003/0125503) and Miyaki, WO03/033454 (US 6,846,890 is the US equivalent and is used as the English Translation here).

Ichikawa, as evidenced by Arakawa, teaches the optical laminate C which comprises layer A comprising a resin having a negative intrinsic birefringence and layer B comprising a transparent resin, having substantially no orientation, as described above. Ichikawa fails to teach that the transparent resin can be a resin having an alicyclic structure, such as a norbornene polymer, let alone one that is a hydrogenation product of a ring-opening polymer of a norbornene monomer.

However, Sakamoto teaches an optical laminate that comprises at least one layer B comprising a transparent norbornene polymer resin having substantially no orientation, being optically isotropic (norbornene-based resin, second substrate is optically isotropic, [0046]) laminated at least on one face of layer A (optical film can be transferred to another substrate (hereafter, referred to as "a second substrate"), [0045]), wherein layer B is isotropic (second substrate is optically isotropic, [0046]).

Miyaki teaches that the hydrogenation product of a ring-opening polymer of a norbornene polymer combines excellent transparency with low birefringence and low water absorption (column 10, lines 25-40) suitable for optical display applications (column 1, lines 40-45).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used a resin having an alicyclic structure, such as

a norbornene polymer, especially one that is a hydrogenation product of a ring-opening polymer of a norbornene monomer, as the transparent resin in layer B, having substantially no orientation, of the optical laminate C of Ichikawa, in order to obtain the desired combination of excellent transparency with low birefringence and low water absorption, suitable for optical display applications, as taught by Miyaki in light of Sakamoto.

8. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa, as evidenced by Arakawa, as applied to claims 1-2, 4, 7-9, 14-15, 17-18 above, and further in view of Arakawa912 (English Abstract, JP 2003-090912).

Ichikawa, as evidenced by Arakawa, teaches the optical laminate C which comprises an adhesive layer disposed between layer A and layer B as described above. Ichikawa fails to disclose that Tg(A) > Tg(D) and Tg(B) > Tg(D).

However, Arakawa912 teaches that the adhesive layer between two layers can have a softening point that is lower than the Tgs of the two layers (abstract) which satisfies the claimed relations of Applicant, for the purpose of maintaining the structural integrity of the two layers while the adhesive layer is manipulated to adhere the two layers.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have provided an adhesive layer that satisfies the relations of Applicant, as the adhesive layer adhering layer A to layer B in the optical laminate C of Ichikawa, in order to maintain the structural integrity of the two layers

while the adhesive layer is manipulated to adhere the two layers, as taught by Arakawa912.

9. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa, as evidenced by Arakawa, as applied to claims 1-2, 4, 7-9, 14-15, 17-18 above.

Ichikawa, as evidenced by Arakawa, teaches the liquid crystal display device which uses at least one sheet of the optical laminate, as described above. In addition, Ichikawa teaches that the liquid crystal display device comprises a liquid crystal cell (column 16, lines 17-37). Ichikawa fails to teach that the liquid crystal cell is of in-plane switching (IPS) mode.

However, a liquid crystal display device that comprises a liquid crystal cell of in-plane switching (IPS) mode, for the purpose of providing the desired display characteristics, is common practice.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used a liquid crystal cell of in-plane switching (IPS) mode as the liquid crystal cell in the liquid crystal display device of Ichikawa, in order to obtain the desired display characteristics, as is common practice.

10. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa, as evidenced by Arakawa, as applied to claims 1-2, 4, 7-9, 14-15, 17-18 above, and further in view of Arakawa (US 2002/0060762).

Ichikawa, as evidenced by Arakawa, teaches the optical laminate C which comprises layer A comprising a resin having a negative intrinsic birefringence, which

can be a polystyrene, and layer B comprising a transparent resin, having substantially no orientation, as described above. Ichikawa fails to describe the specifics of the polystyrene.

However, Ichikawa teaches that the optical laminate C desirably has high heat resistance (column 3, lines 50-56).

Arakawa teaches that the polystyrene having a negative intrinsic birefringence is preferably a copolymer of styrene with maleic anhydride, for the purpose of providing the desired high heat resistance ([0036]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have use a copolymer of styrene with maleic anhydride as the polystyrene resin having an negative intrinsic birefringence in layer A of optical laminate C of Ichikawa, in order to obtain the desired high heat resistance, as taught by Arakawa.

Allowable Subject Matter

11. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art cited above teach the claimed combination of relations.

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number (571)272-1492. The examiner can normally be reached Monday to Friday from 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample, can be reached on (571)272-1376. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Sophie Hon/

Sow-Fun Hon

Primary Examiner, Art Unit 1783